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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER				
HIGGINS, GERARD T				
ART UNIT		PAPER NUMBER		
1794				
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12/29/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/538,106

**Applicant(s)**

VAN SANTEN ET AL.

**Examiner**

GERARD T. HIGGINS

**Art Unit**

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09/15/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
- Paper No(s)/Mail Date 05/16/2007.
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's response filed 09/15/2008 has been entered. Currently claims 1-17 are pending. Please note that claim 4 does not match the previously presented claim 4 in the preliminary amendment filed 06/08/2005; specifically, "a method according to **claim 3.**"

### *Election/Restrictions*

2. Applicant's election without traverse of Group II, claims 9-17 in the reply filed on 09/15/2008 is acknowledged.
3. Claims 1-8 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 09/15/2008.

### *Priority*

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Specification***

5. The disclosure is objected to because of the following informalities: on page 5, line 17, the phrase "an (a)spherical lens" appears to be incorrect.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 10-12 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. With regard to claim 10, the fact that R<sub>1</sub>-R<sub>4</sub> may be "C<sub>1</sub>-C<sub>10</sub>-alkyl" is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). It is clear from applicants' specification and also from claim 2 that this potential substituent should be "C<sub>1</sub>-C<sub>10</sub>-alkyl."

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 10-14 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claims 10-12, the letters "n" and "m," which represent the length of the polymer are not defined.

With regard to claim 10, the phrase " $R_4$  = hydrogen,  $C_2$ - $C_{10}$ -alkyl..." renders the claim indefinite because it makes it seem that  $R_1$ - $R_4$  is all of the members of the group following the equals sign.

With regard to claims 11 and 12, it is unclear if the substituents ( $R_1$  and  $R_2$ ) are the same nature as those seen in claim 10 because claims 11 and 12 use the terminology "further comprising," which means the silicon based reactive materials are different than, or in addition to, those presented in claim 10.

With regard to claims 13 and 14, the phrase "a wavelength of 190-400 nm" renders the claim indefinite because 190-400 nm is not one wavelength but a range of wavelengths.

With regard to claim 17, the phrase "is an (a) spherical lens" renders the claim indefinite. It is unclear if this represents the beginning of a list of materials or should be an "aspherical lens."

### ***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 9, 10, and 13-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsuji et al. (6,285,513).

With regard to claim 9, Tsuji et al. disclose an optical element, which reads on applicants' replica (Abstract). The replica comprises silicon based reactive materials (Abstract).

With regard to claim 10, the reactive silicon based materials may comprise the formula seen at col. 9, lines 57-67. This formula includes two substituents (R2 and R3) on a siloxane backbone. The substituents may be each independently hydrogen or an organic group. Organic groups are defined at col. 11, lines 53-67 and read on applicants' substituents. This formula overall reads on applicants' formula (1). With regard to applicants' formula (2), the Examiner notes the passage at col. 15, line 64 to col. 17, line 59, and particularly col. 17, lines 54-59, which teaches that organohydrogenpolysiloxane components may have vinyl groups at the terminal positions of the reactive materials. This reads on applicants' formula (2), and it also noted that Tsuji et al. recognize that these silicon based reactive materials are known to increase light transmittance.

With regard to claims 13 and 14, the Examiner notes the passage at col. 19, line 57 to col. 20, line 9, col. 10, lines 39-48, and col. 12, lines 21-29, which state that the light transmittance of the optical elements produced from these silicon based materials have a transmittance of greater than 80% in the region of 250-900 nm. This overlaps with applicants' claimed range; furthermore, the limitations of these claims are intended use limitations. Intended use limitations are not dispositive of patentability; further,

given the evidence in Tsuji et al. and also given the fact that the Examiner has provided every limitation of claim 9, it is clear to the Examiner that the silicon based reactive materials of Tsuji et al. would perform this intended use.

With regard to claim 15, the passage at col. 2, lines 17-31 teaches that the "excellent in basic optical properties such as double refraction, light transmittance," which in this context means an element that is not birefringent as claimed.

With regard to claims 16 and 17, these claims are intended use claims. Intended use limitations are not dispositive of patentability; further, Tsuji et al. disclose that their invention is an "Optical Element" (Title), which reads on applicants' optical component. Additionally, at col. 18, lines 56-63 they disclose that the silicon based reactive material may be an aspheric lens, and lastly at col. 19, line 57 to col. 20, line 9 they disclose that the optical element may be an information recording surface of an information recording medium, which reads on applicants' relief structure for optical applications.

### ***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuji et al. (6,285,513), as applied to claim 10, in view of Pruvost et al. (3,624,030).

Tsuji et al. disclose all of the limitations of applicants' claim 10 in section 11 above, including disclose that the terminal groups may have trimethyl or vinyl dimethyl substituents (col. 16, lines 9-10); however, they fail to disclose the methoxy end group of applicants' claim 11.

Pruvost et al. disclose organosilsesquioxanes having the generic formula at col. 1, lines 70-72. These are silicones analogous to applicants' and Tsuji et al. Pruvost et al. disclose at col. 2, lines 44-47 that the substituent "X" may be methoxy.

Since Tsuji et al. and Pruvost et al. are both drawn to polysiloxanes; it would have been obvious to one having ordinary skill in the art at the time the invention was made to have methoxy groups at any point along the siloxane backbone, including the terminal groups as claimed. The motivation to provide these end groups is to provide an additional reactive site by which the silicon based reactive materials can undergo condensation reactions and thereby polymerize.

14. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuji et al. (6,285,513) as applied to claim 10, in view of Lamoreaux (3,197,433).

Tsuji et al. have disclosed all of the limitations of applicants' claim 10 in section 11 above; further, they also disclosed at col. 12, lines 21-29 that the number of hydrogen or alkyl groups bonded to silicon affect the light transmittance; however, they have not disclosed the silicon based reactive material of claim 12.

Lamoreaux disclose cyclic organopolysiloxane reagents that are optically clear (Title). Applicants' attention is drawn to formula (1) and (2) of Lamoreaux, which shows



that each silicon may have one hydrogen ( $R^H$ ) and one alkyl group ( $R$ ) (col. 2, lines 5-71).

Since Tsuji et al. and Lamoreaux are both drawn to polysiloxane resins; it would have been obvious to one having ordinary skill in the art to make use of the "optically clear" polysiloxane reactive materials of Lamoreaux in the optical elements of Tsuji et al. Polysiloxane reactive components are interchangeable and combinable. One of ordinary skill would have known to adjust the percentage of each of the polysiloxane reactant based upon the desired end use of the device; further, one of ordinary skill would have understood using these optically clear reactive polysiloxane materials because they are drawn to the same purpose as the optical elements of Tsuji et al. It would have been obvious to use a reactant that was optically clear in a resin designed for optical uses.

With regard to the fact that the resin is comprised of two groups comprising two silicon atoms, wherein each group has the same four substituents, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the compound of formula (1) of Lamoreaux such that it would have the claimed structure. The overall chemical formula would have been the same, and one of ordinary skill would have expected a reasonable chance for success given the fact that it was comprised of the same number and types of substituents.

***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Examiner has cited various patents showing silicone resins as used for substrates for optical recording media. With regard to the X references cited on the search report, the references are considered cumulative to the present rejections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERARD T. HIGGINS whose telephone number is (571)270-3467. The examiner can normally be reached on M-F 9:30am-7pm est. (1st Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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